



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

C3-7-1
Job Sheet 176065



Part No: C3-7-1

Job Qty: 10 ea

Part Name: Load Beam Bumper



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 4/16/18

Job Tracking No:

Due Date: 4/27/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG C3-7-1 Rev. A IPP Rev. A 18.04.16 new issue DP Verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	10 Ea		4/26/18	0.00	0.00	Start Up Machining-1		MLC
100	Small Fab	10 pcs		4/27/18	0.00	1.00	Small Fab-1		MLC
120	QC	10 pcs		4/27/18	0.00	0.00	QC5		LB
130	Packaging	10 pcs		4/27/18	0.00	0.00	Packaging3-2		18-04-23/18
140	QC21-SA	10 Ea		4/27/18	0.00	0.00	QC21		GA-Alain

Part Op Descriptions: 100 - 1- CUT TO SIZE AND CHAMFER AS PER DWG ***Hole in center no longer required see engineering for sign off***

DAS
21
9-80
APR 23 2018

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
8695K716	Polyurethane Rod 1.00" DIA. 80A (Hard)	.5000 ft (.05 ea)	90-Start up Operation	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	8695K716	1	6	0

Part Specifications

Specifications could not be found.

Plex 4/16/18 1:41 PM Dart.lajeunesse.marie

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Cross tube ☐ Machine ☐																																																				
Date : _____ Step #: _____		Engineering ☐ Quality ☐ Other ☐ MRB (QSI042) Approval																																																				
Description Work Order Deviation		Completed By d hand / Supervisor proval Verification QA Coordinator Approval																																																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4">Root Cause</th> </tr> </thead> <tbody> <tr> <td style="width: 15%;">Environment</td> <td style="width: 15%;">☐</td> <td style="width: 15%;">No Re-verification</td> <td style="width: 15%;">☐</td> </tr> <tr> <td>Design</td> <td>☐</td> <td>Operator</td> <td>☐</td> </tr> <tr> <td>Doc/Data</td> <td>☐</td> <td>Offset/Setup</td> <td>☐</td> </tr> <tr> <td>Equip/Tooling</td> <td>☐</td> <td>Supplier</td> <td>☐</td> </tr> <tr> <td>Handling/Pre</td> <td>☐</td> <td>Training</td> <td>☐</td> </tr> <tr> <td>Material</td> <td>☐</td> <td>Use for Testing</td> <td>☐</td> </tr> <tr> <td>Internal Transport</td> <td>☐</td> <td>Poor Information</td> <td>☐</td> </tr> <tr> <td>Tribal Knowledge</td> <td>☐</td> <td>Rushing</td> <td>☐</td> </tr> <tr> <td>LOA</td> <td>☐</td> <td>Product Improvement</td> <td>☐</td> </tr> <tr> <td>Substation</td> <td>☐</td> <td>Process Improvement</td> <td>☐</td> </tr> <tr> <td>Past Expiry Date</td> <td>☐</td> <td>Manufacturing Process</td> <td>☐</td> </tr> <tr> <td>Misidentified</td> <td>☐</td> <td>Past Due</td> <td>☐</td> </tr> </tbody> </table>			Root Cause				Environment	☐	No Re-verification	☐	Design	☐	Operator	☐	Doc/Data	☐	Offset/Setup	☐	Equip/Tooling	☐	Supplier	☐	Handling/Pre	☐	Training	☐	Material	☐	Use for Testing	☐	Internal Transport	☐	Poor Information	☐	Tribal Knowledge	☐	Rushing	☐	LOA	☐	Product Improvement	☐	Substation	☐	Process Improvement	☐	Past Expiry Date	☐	Manufacturing Process	☐	Misidentified	☐	Past Due	☐
Root Cause																																																						
Environment	☐	No Re-verification	☐																																																			
Design	☐	Operator	☐																																																			
Doc/Data	☐	Offset/Setup	☐																																																			
Equip/Tooling	☐	Supplier	☐																																																			
Handling/Pre	☐	Training	☐																																																			
Material	☐	Use for Testing	☐																																																			
Internal Transport	☐	Poor Information	☐																																																			
Tribal Knowledge	☐	Rushing	☐																																																			
LOA	☐	Product Improvement	☐																																																			
Substation	☐	Process Improvement	☐																																																			
Past Expiry Date	☐	Manufacturing Process	☐																																																			
Misidentified	☐	Past Due	☐																																																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 33%;">Pressure/Forced</td> <td style="width: 33%;">Tempera</td> </tr> <tr> <td>Bending</td> <td>Set-up</td> </tr> <tr> <td>Centre Not Concentric</td> <td>BOM/Rou</td> </tr> <tr> <td>Cracks</td> <td>Broken/Da</td> </tr> <tr> <td>Crimp/Kink/Ripple/Wave</td> <td>Inspection</td> </tr> <tr> <td>Cuffs</td> <td>Contamina</td> </tr> <tr> <td>Crushing</td> <td>Countersinl</td> </tr> <tr> <td>Heat Treat</td> <td>Cut Too Sho</td> </tr> <tr> <td>Wave/Twist in Tube</td> <td>Instructions</td> </tr> <tr> <td>Marks/Chatter</td> <td>Drill Holes</td> </tr> </tbody> </table>			Pressure/Forced	Tempera	Bending	Set-up	Centre Not Concentric	BOM/Rou	Cracks	Broken/Da	Crimp/Kink/Ripple/Wave	Inspection	Cuffs	Contamina	Crushing	Countersinl	Heat Treat	Cut Too Sho	Wave/Twist in Tube	Instructions	Marks/Chatter	Drill Holes																																
Pressure/Forced	Tempera																																																					
Bending	Set-up																																																					
Centre Not Concentric	BOM/Rou																																																					
Cracks	Broken/Da																																																					
Crimp/Kink/Ripple/Wave	Inspection																																																					
Cuffs	Contamina																																																					
Crushing	Countersinl																																																					
Heat Treat	Cut Too Sho																																																					
Wave/Twist in Tube	Instructions																																																					
Marks/Chatter	Drill Holes																																																					
OTHER : _____																																																						

oned Wrong
 le Dimensions
 Under tolerance
 correct
 st/Missing
 ived
 urning Sequence

Container No: S062797
 Part: C3-7-1
 Job No: 176065
 Serial No/Batch: S062797
 Inspector: A
 Revision: A
 Date: 04/19/18

DART Aerospace Ltd.
 1270 Aberdeen Street
 Hawkesbury, ON K6A 1K7
 CANADA
 TEL: 1 813 932-5200
 Email: sales@dartaero.com
 www.dartaerospace.com

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

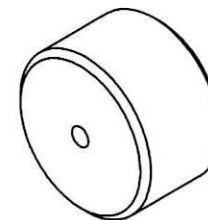
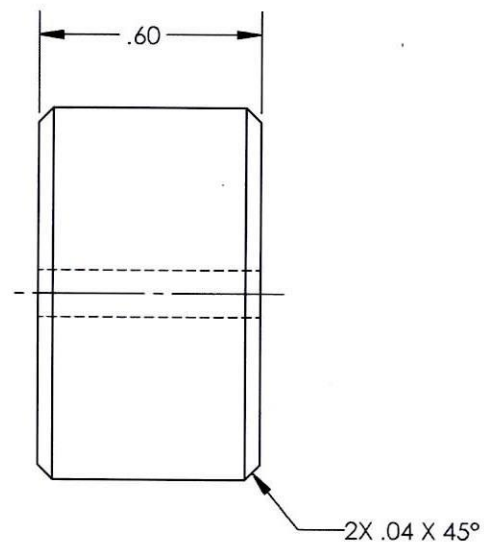
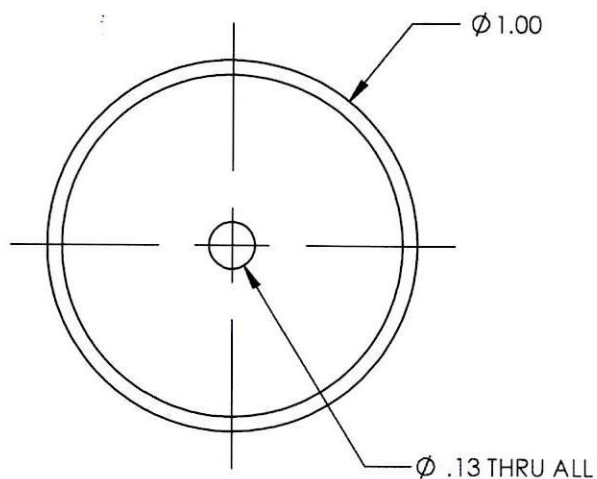
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
				Completed By					
				Lead hand / Supervisor Approval Verification					
				QC / QA Coordinator Approval					

Root Cause				FAULT CATEGORY			
Environment ☐		No Re-verification ☐		Pressure/Forced ☐		Temperature/Cure ☐	
Design ☐		Operator ☐		Bending ☐		Set-up ☐	
Doc/Data ☐		Offset/Setup ☐		Centre Not Concentric ☐		BOM/Route ☐	
Equip/Tooling ☐		Supplier ☐		Cracks ☐		Broken/Damage/Defect ☐	
Handling/Pre ☐		Training ☐		Crimp/Kink/Ripple/Wave ☐		Inspection Incomplete/Unqualified ☐	
Material ☐		Use for Testing ☐		Cuffs ☐		Contamination ☐	
Internal Transport ☐		Poor Information ☐		Crushing ☐		Countersink ☐	
Tribal Knowledge ☐		Rushing ☐		Heat Treat ☐		Cut Too Short ☐	
LOA ☐		Product Improvement ☐		Wave/Twist in Tube ☐		Instructions Incomplete/Unclear ☐	
Substation ☐		Process Improvement ☐		Marks/Chatter ☐		Drill Holes ☐	
Past Expiry Date ☐		Manufacturing Process ☐		OTHER : ☐			
Misidentified ☐		Past Due ☐					

This drawing, specifications, and concepts contained here in are the sole property of Dart Aerospace, and may not be reproduced or used in any fashion without the prior written permission of Dart Aerospace Eugene, OR.

REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
A	14-0111	CH'D TITLE BLOCK WAS RED BARN IS DART. ADDED BAG & LABEL NOTE. CH'D TOLERANCE NON-CRITICAL DIMENSIONS.	8/6/2014	DJN	RW



NOTE:
BAG & LABEL WITH BATCH NUMBER.

DART AEROSPACE	
TITLE LOAD BEAM BUMPER C3-HOOK	
DWG NO. C3-7-1	REV A
MAT'L POLYURETHANE	DRAWN BY: CANAM
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX ± .005 FRACTIONS ± 1/8	HEAT
.XX ± .01	TREAT
X ± .1 ANGLES ± 5°	FINISH
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	SPEC
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	USED ON MODEL
SCALE 2:1	DATE 12/18/2001
SHEET 1 OF 1	

ASSY QTY	ASSY QTY	B/O	Part #	UNIT QTY	Description	Material	B/O INFORMATION OR SPECIFICATIONS	PG.
			C3-7-1	1	LOAD BEAM BUMPER	POLYURETHANE	POLYURETHANE	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																																																																	
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																																																																	
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																																																																	
Large Fab ☐	Composite ☐	Supplier ☐																																																																		
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval																																																																
Description Work Order Deviation		Disposition		Completed By																																																																
				Lead hand / Supervisor Approval Verification																																																																
				QC / QA Coordinator Approval																																																																
Root Cause		FAULT CATEGORY																																																																		
<table style="width: 100%; border: none;"> <tr><td style="border: none;">Environment ☐</td><td style="border: none;">No Re-verification ☐</td></tr> <tr><td style="border: none;">Design ☐</td><td style="border: none;">Operator ☐</td></tr> <tr><td style="border: none;">Doc/Data ☐</td><td style="border: none;">Offset/Setup ☐</td></tr> <tr><td style="border: none;">Equip/Tooling ☐</td><td style="border: none;">Supplier ☐</td></tr> <tr><td style="border: none;">Handling/Pre ☐</td><td style="border: none;">Training ☐</td></tr> <tr><td style="border: none;">Material ☐</td><td style="border: none;">Use for Testing ☐</td></tr> <tr><td style="border: none;">Internal Transport ☐</td><td style="border: none;">Poor Information ☐</td></tr> <tr><td style="border: none;">Tribal Knowledge ☐</td><td style="border: none;">Rushing ☐</td></tr> <tr><td style="border: none;">LOA ☐</td><td style="border: none;">Product Improvement ☐</td></tr> <tr><td style="border: none;">Substation ☐</td><td style="border: none;">Process Improvement ☐</td></tr> <tr><td style="border: none;">Past Expiry Date ☐</td><td style="border: none;">Manufacturing Process ☐</td></tr> <tr><td style="border: none;">Misidentified ☐</td><td style="border: none;">Past Due ☐</td></tr> </table>	Environment ☐	No Re-verification ☐	Design ☐	Operator ☐	Doc/Data ☐	Offset/Setup ☐	Equip/Tooling ☐	Supplier ☐	Handling/Pre ☐	Training ☐	Material ☐	Use for Testing ☐	Internal Transport ☐	Poor Information ☐	Tribal Knowledge ☐	Rushing ☐	LOA ☐	Product Improvement ☐	Substation ☐	Process Improvement ☐	Past Expiry Date ☐	Manufacturing Process ☐	Misidentified ☐	Past Due ☐	<table style="width: 100%; border: none;"> <tr><td style="border: none;">Pressure/Forced ☐</td><td style="border: none;">Temperature/Cure ☐</td></tr> <tr><td style="border: none;">Bending ☐</td><td style="border: none;">Set-up ☐</td></tr> <tr><td style="border: none;">Centre Not Concentric ☐</td><td style="border: none;">BOM/Route ☐</td></tr> <tr><td style="border: none;">Cracks ☐</td><td style="border: none;">Broken/Damage/Defect ☐</td></tr> <tr><td style="border: none;">Crimp/Kink/Ripple/Wave ☐</td><td style="border: none;">Inspection Incomplete/Unqualified ☐</td></tr> <tr><td style="border: none;">Cuffs ☐</td><td style="border: none;">Contamination ☐</td></tr> <tr><td style="border: none;">Crushing ☐</td><td style="border: none;">Countersink ☐</td></tr> <tr><td style="border: none;">Heat Treat ☐</td><td style="border: none;">Cut Too Short ☐</td></tr> <tr><td style="border: none;">Wave/Twist in Tube ☐</td><td style="border: none;">Instructions Incomplete/Unclear ☐</td></tr> <tr><td style="border: none;">Marks/Chatter ☐</td><td style="border: none;">Drill Holes ☐</td></tr> </table>	Pressure/Forced ☐	Temperature/Cure ☐	Bending ☐	Set-up ☐	Centre Not Concentric ☐	BOM/Route ☐	Cracks ☐	Broken/Damage/Defect ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Cuffs ☐	Contamination ☐	Crushing ☐	Countersink ☐	Heat Treat ☐	Cut Too Short ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Marks/Chatter ☐	Drill Holes ☐	<table style="width: 100%; border: none;"> <tr><td style="border: none;">Power Loss/Surge ☐</td><td style="border: none;">Positioned Wrong ☐</td></tr> <tr><td style="border: none;">Folio/Program ☐</td><td style="border: none;">Outside Dimensions ☐</td></tr> <tr><td style="border: none;">Grain ☐</td><td style="border: none;">Over/Under tolerance ☐</td></tr> <tr><td style="border: none;">Weld ☐</td><td style="border: none;">Part Incorrect ☐</td></tr> <tr><td style="border: none;">Wrong Stock Pulled ☐</td><td style="border: none;">Part Lost/Missing ☐</td></tr> <tr><td style="border: none;">Out of Sequence ☐</td><td style="border: none;">Part Moved ☐</td></tr> <tr><td style="border: none;">Off-set ☐</td><td style="border: none;">Drawing ☐</td></tr> <tr><td style="border: none;">Mislabeled ☐</td><td style="border: none;">Finish ☐</td></tr> <tr><td style="border: none;">Fit/Function ☐</td><td style="border: none;">Misread ☐</td></tr> <tr><td style="border: none;">Misaligned/off center ☐</td><td style="border: none;">Turning Sequence ☐</td></tr> </table>		Power Loss/Surge ☐	Positioned Wrong ☐	Folio/Program ☐	Outside Dimensions ☐	Grain ☐	Over/Under tolerance ☐	Weld ☐	Part Incorrect ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Out of Sequence ☐	Part Moved ☐	Off-set ☐	Drawing ☐	Mislabeled ☐	Finish ☐	Fit/Function ☐	Misread ☐	Misaligned/off center ☐	Turning Sequence ☐	OTHER : ☐
Environment ☐	No Re-verification ☐																																																																			
Design ☐	Operator ☐																																																																			
Doc/Data ☐	Offset/Setup ☐																																																																			
Equip/Tooling ☐	Supplier ☐																																																																			
Handling/Pre ☐	Training ☐																																																																			
Material ☐	Use for Testing ☐																																																																			
Internal Transport ☐	Poor Information ☐																																																																			
Tribal Knowledge ☐	Rushing ☐																																																																			
LOA ☐	Product Improvement ☐																																																																			
Substation ☐	Process Improvement ☐																																																																			
Past Expiry Date ☐	Manufacturing Process ☐																																																																			
Misidentified ☐	Past Due ☐																																																																			
Pressure/Forced ☐	Temperature/Cure ☐																																																																			
Bending ☐	Set-up ☐																																																																			
Centre Not Concentric ☐	BOM/Route ☐																																																																			
Cracks ☐	Broken/Damage/Defect ☐																																																																			
Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐																																																																			
Cuffs ☐	Contamination ☐																																																																			
Crushing ☐	Countersink ☐																																																																			
Heat Treat ☐	Cut Too Short ☐																																																																			
Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐																																																																			
Marks/Chatter ☐	Drill Holes ☐																																																																			
Power Loss/Surge ☐	Positioned Wrong ☐																																																																			
Folio/Program ☐	Outside Dimensions ☐																																																																			
Grain ☐	Over/Under tolerance ☐																																																																			
Weld ☐	Part Incorrect ☐																																																																			
Wrong Stock Pulled ☐	Part Lost/Missing ☐																																																																			
Out of Sequence ☐	Part Moved ☐																																																																			
Off-set ☐	Drawing ☐																																																																			
Mislabeled ☐	Finish ☐																																																																			
Fit/Function ☐	Misread ☐																																																																			
Misaligned/off center ☐	Turning Sequence ☐																																																																			